

271 Wolfner Drive ■ Saint Louis, Missouri 63026
314/349-8399 ■ Fax 314/349-8384

June 16, 1993

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Mr. Ruben McCullers
Environmental Scientist
U.S. EPA, Region VII
WSTM/RCRA/RCOM
726 Minnesota Ave.
Kansas City, Kansas 66101

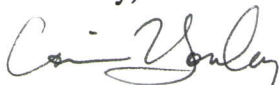
Re: The Knapheide Mfg. Co.
Consolidated Consent Agreement and Consent Order
Docket Nos. RCRA VII-92-H-0008
and EPCRA VII-93-T-499E

Dear Mr. McCullers:

Pursuant to your letter received dated June 7, 1993 (received by Knapheide on June 11, 1993), regarding The Knapheide Mfg. Co.'s May 10, 1993 closure plan, Schreiber, Grana & Yonley, Inc. hereby acknowledges on behalf of The Knapheide Mfg. Co., the modification required by the Environmental Protection Agency (EPA) and has enclosed a revised closure plan which addresses this item.

Pursuant to paragraph B.10.a. and b. of the above-referenced Consent Agreement, The Knapheide Mfg. Co. will initiate closure activities upon receiving written authorization from the EPA that the revised closure plan is acceptable. If you have any questions regarding this revised closure plan, please contact Doug Abeln of my staff at (314) 349-8399.

Sincerely,


for Robert J. Schreiber, Jr., P.E.
President

RJS/dla/nhg
Encl.

cc: Dan Tschirgi, MDNR
Gerry Korb, The Knapheide Mfg. Co.
Harold Huggins, The Knapheide Mfg. Co.
Sandra Oberkfell, Rudnick & Wolfe

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JUN 18 1993

RCOM SECTION



**CLOSURE PLAN
FOR
WASTE PAINT FILTERS AND
OVERSPRAY PAPER STORAGE UNIT
AND THE
BRULE INCINERATOR UNIT**

**Revised
June 16, 1993**

PREPARED FOR:

**THE KNAPHEIDE MFG. CO.
WEST QUINCY, MISSOURI**

PREPARED BY:

**SCHREIBER, GRANA & YONLEY, INC.
ST. LOUIS, MISSOURI**

SUBMITTED TO:

**U.S. ENVIRONMENTAL PROTECTION AGENCY
REGION VII
KANSAS CITY, KANSAS**

RECEIVED

JUN 18 1993

SCHREIBER, GRANA & YONLEY, INC.

RCOM SECTION



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**CLOSURE PLAN
FOR
WASTE PAINT FILTERS AND OVERSPRAY PAPER STORAGE UNIT
AND THE
BRULE INCINERATOR UNIT**

1.0 INTRODUCTION

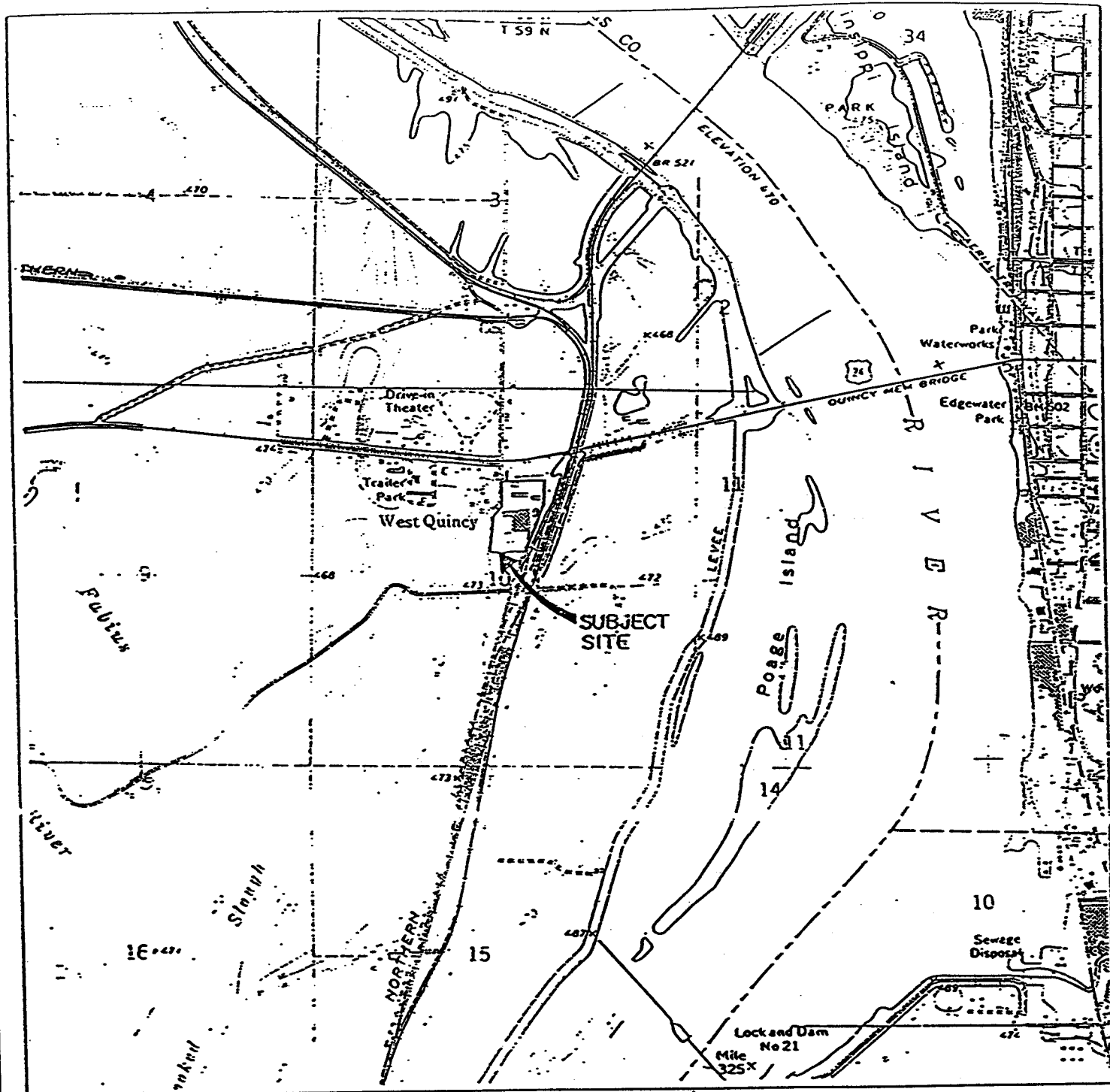
The Knapheide Mfg. Co. (Knapheide) assembles custom truck body parts at its facility located in West Quincy, Missouri (Figure 1). The West Quincy facility operation includes the painting of assembled products.

The U.S. Environmental Protection Agency (EPA), Region VII, alleged in a Resource Conservation and Recovery Act (RCRA) Compliance Complaint that waste paint filters and overspray paper generated by the painting operation are characteristically hazardous due to leachable chromium toxicity. The facility was cited in that complaint in part, for treatment of these hazardous wastes and storage of these hazardous wastes over 90 days without a permit. Pursuant to a Consolidated Consent Agreement and Consent Order entered into between EPA and Knapheide (Docket Nos. VII-92-H-0008, VII-93-T-499-E) ("Consent Order") in settlement of said alleged violation, Knapheide must close the alleged waste paint filter and overspray paper storage unit in accordance with interim status rules as approved by the Missouri Department of Natural Resources (MDNR). In addition, the Consent Order requires that an inoperative Brule incinerator be similarly closed as a treatment unit for waste paint filters and overspray paper.

The hazardous waste management unit subject to this Closure Plan is referred to in the Consent Order as the "waste paint filters and overspray paper storage unit and the Brule incinerator unit." The units are adjacent to each other and are located at the eastern edge of the facility (Figure 2).

The wastestream referred to in the EPA complaint is waste paint filters and overspray paper (hereinafter referred to as used absorbent material) used to collect paint residues (see Appendix A for absorbent material analytical results). Used absorbent material was handled and stored at the subject closure area in sealed 55-gallon metal containers. Between 1980 and September 25, 1989, the used absorbent material was disposed of in the small on-site Brule incinerator. No other materials were disposed of in the incinerator. The ash generated by the incineration activities was collected and stored at the storage area.





QUINCY WEST, ILL.-MO.
 NV/4 QUINCY 15' QUADRANGLE
 K39525-V91225/7.5
 1971
 AHS 2763 IV NV-SERIES V863



QUADRANGLE LOCATION

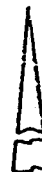
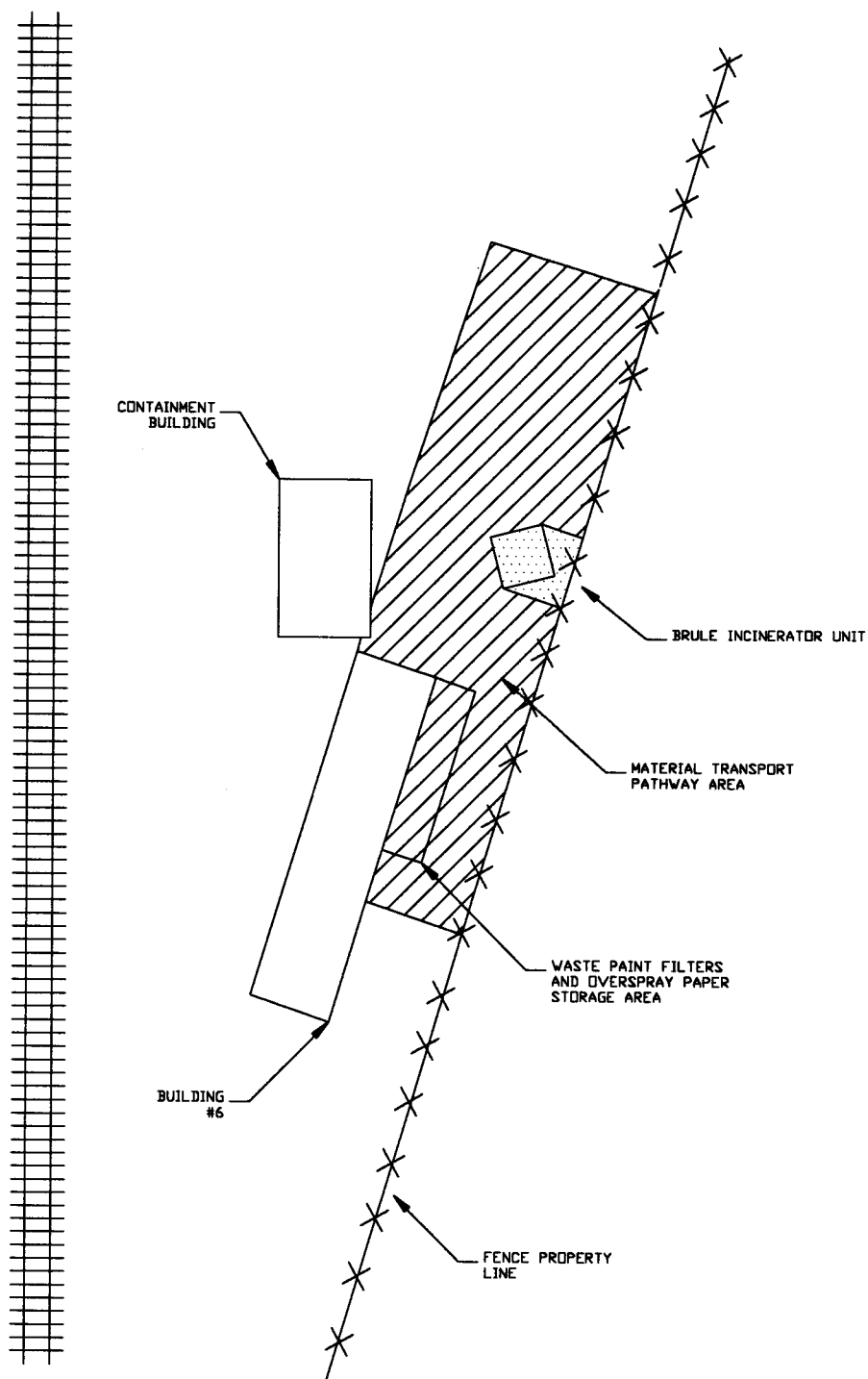


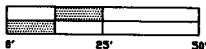
FIGURE 1: VICINITY MAP

SCHREIBER, GRANA & YONLEY
 ENVIRONMENTAL ENGINEERING
 ST. LOUIS, MO

KNAPHEIDE MANUFACTURING COMPANY
 WEST QUINCY, MO



APPROXIMATE
SCALE:



KNAP04B

FIGURE 2: CLOSURE UNITS

LOCATION DIAGRAM

KNAPHEIDE MANUFACTURING COMPANY
WEST QUINCY, MO

SCHREIBER, GRANA & YONLEY
ENVIRONMENTAL ENGINEERING
ST. LOUIS, MO

The purpose of this Closure Plan is to comply with the Consent Order to provide a Closure Plan in accordance with 40 CFR 265 Subparts G and O for the subject closure area.

This Closure Plan describes the steps necessary to completely close the interim status storage and treatment unit referenced in the Consent Order as being located at Knapheide's West Quincy facility. For purposes of this Closure Plan, the subject closure area will be divided into two (2) units:

- 1) Waste Paint Filters and Overspray Paper Storage Unit; and
- 2) Brule Incinerator Unit

This Closure Plan will be amended if unexpected events occur during the implementation of the plan which would require a modification after it is approved by the EPA. Such an amendment will be submitted to the EPA within 30 days after the unexpected event has occurred per 40 CFR §265.112 (C)(2). Knapheide will notify the EPA and MDNR 30 days prior to initiating any sampling activities per paragraph 10(C) of the Consent Order.

Knapheide will maintain at its facility the approved Closure Plan (including closure schedule) and will complete the closure within 180 days following the final plan approval by the EPA. Within 60 days of the completion of closure activities, a closure certification meeting the requirements of 40 CFR §265.115 will be provided to the EPA by registered mail.

2.0 WASTE PAINT FILTERS AND OVERSPRAY PAPER STORAGE UNIT

The area that comprises the former "waste paint filters and overspray paper storage unit" is not visually evident by current site conditions. The maximum extent of storage of used absorbent material containers extends from the incinerator southward along the eastern exterior wall of Building No. 6, approximately 66 feet south from the northeast corner of the building, and east to the fence line (see Figure 2).

Activities that were conducted at the waste paint filters and overspray paper storage unit consisted solely of the storage of used absorbent material and incinerator ash within sealed 55-gallon metal containers between 1980 and May 24, 1991. Storage activities involved moving full containers from satellite storage areas throughout the facility by forklift to the storage area for staging prior to incineration. Subsequently, ash from the incinerator operation was also contained and stored in the paint filter and overspray paper storage unit area prior to being shipped off-site.



Currently, the used absorbent material is stored in a less than 90 day storage area which is separate from the subject closure area. The facility retains Chief Supply of Haskell, Oklahoma to transport and dispose of the used absorbent material (EPA Designation No. D001, D007). Chief Supply blends the used absorbent material with other combustible fuels and redistributes it as an energy recovery fuel at an appropriate permitted treatment, storage or disposal facility.

2.1 Maximum Inventory

Based on information provided by facility personnel, the maximum inventory of containers ever stored in the waste paint filter and overspray paper storage unit was 958, 55-gallon metal containers. Of that amount, it is estimated that 888 containers held absorbent material while 70 containers held incinerator ash.

2.2 Closure Procedures

Currently, no containers of waste paint filters, overspray paper or incinerator ash are stored in the subject area. The last day of use for the waste paint filters and overspray paper storage unit was May 24, 1991. Hence, closing will consist only of sampling and analysis procedures to verify clean closure.

2.3 Sampling & Analysis Plan

In order to verify that contaminants have not been released to the ground surface from the storage and handling of absorbent material drums, a subsurface investigation will be conducted at the waste paint filters and overspray paper storage unit. The subsurface investigation will consist of collecting shallow (0-6") soil samples at the locations identified on Figure 3 and analyzing them for the constituents listed in the sample log (Table 1).



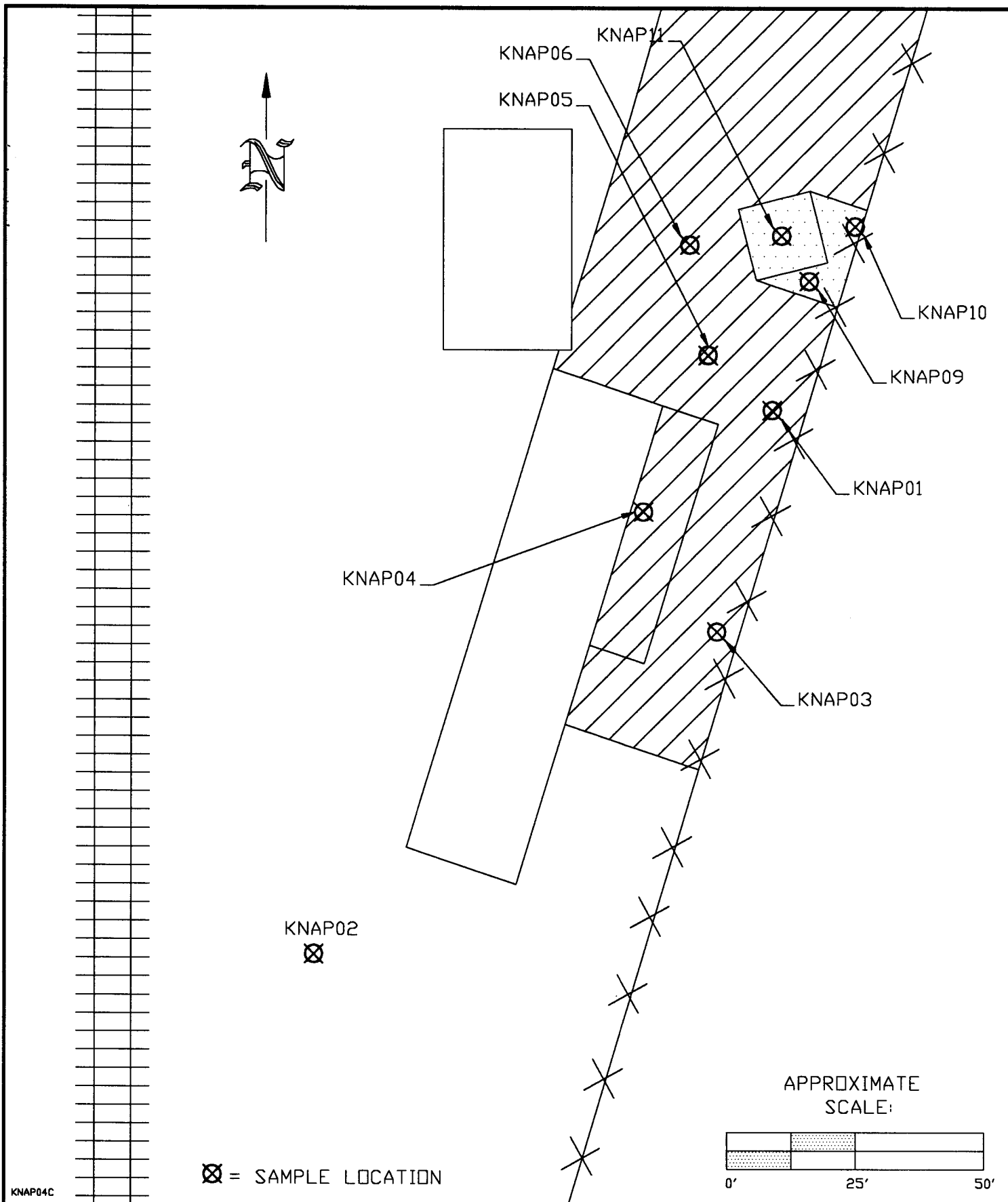


FIGURE 3: SAMPLE LOCATION

DIAGRAM

KNAPHEIDE MANUFACTURING COMPANY
WEST QUINCY, MO

SCHREIBER, GRANA & YONLEY

ENVIRONMENTAL ENGINEERING
ST. LOUIS, MO

TABLE 1
SAMPLE LOG
WASTE PAINT FILTERS AND OVERSPRAY PAPER STORAGE UNIT

Sample ID No.	Matrix	Depth	Analysis*	Description
KNAP 01	Soil	0-6"	Total Metals	Surface Water Runoff Pathway Sample
KNAP 02	Soil	0-6"	Total Metals	Background Sample
KNAP 03	Soil	0-6"	Total Metals	Storage Unit Sample
KNAP 04	Soil	2'	Total Metals	Storage Unit Sample
KNAP 05	Soil	0-6"	Total Metals, VOA, BNA	Storage Unit Sample
KNAP 06	Soil	3-4"	TPH, VOA, BNA	Oily Layer Sample
KNAP 07	Soil	0-6"	Total Metals, VOA, BNA	Duplicate Soil Sample (KNAP 05)
KNAP 08	Water	---	VOA, BNA, TPH	Decontamination Blank

*Total Metals = SW 846 EPA Approved Method

VOA - Volatile Organic Analysis - SW 846 Method 8240

BNA - Base Natural Acids - SW 846 Method 8270

TPH - Total Petroleum Hydrocarbons SW 846 Method 418.1

A stainless steel hand auger or trailer mounted drilling rig will be utilized to bore and collect samples. Discrete soil samples from the selected sampling locations will be collected from the base materials beneath the crushed rock layer at depths identified in Table 1.

All soil samples will be carefully removed from the sampling device using a stainless steel spoon and placed into an appropriate sampling jar. The samples will be collected by personnel in Level D protection utilizing clean latex or nitrile gloves. The personnel protection level will be upgraded if actual project conditions warrant a change.

The sample bottles will be labeled identifying the sample location, sample collector, date of collection and analysis to be performed. The samples will then be transported to an independent laboratory whose QA/QC procedures will be in accordance with SW 846. A chain-of-custody form will accompany the samples to the laboratory. In addition to the laboratory QA/QC procedures, one (1) duplicate soil sample and one (1) decontamination blank will also be collected and submitted for analysis. All analytical results will be submitted to EPA and MDNR within 30 days after receipt of the sampling data.

All drill rigs, augers and sampling equipment used in the investigation will be decontaminated prior to use on the site and prior to removal from the site. This procedure will



eliminate the possibility of contamination being introduced from an off-site source and will assure that any possible contamination encountered from the investigation does not leave the site.

2.4 Closure Criteria

The waste paint filters and overspray paper storage unit will be considered to be clean closed if the soil sample analysis results indicate no detection of the parameters above the method detection limits identified in Table 2, background levels as identified in the background sample or as referenced in Missouri soil literature or a risk based standard.

If analytical results indicate that contamination exists in the soil at the waste paint filters and overspray paper storage unit, Knapheide will submit a contingent Closure Plan for the unit within 60 days of EPA's notification to Knapheide that EPA has determined that additional closure activities are required.

3.0 BRULE INCINERATOR UNIT

Currently the inoperative Brule incinerator is located at the northeast edge of the waste paint filters and overspray paper storage unit area as shown in Figure 2. The Brule incinerator unit consists of a Brule incinerator located upon an approximately 15 x 15 foot square concrete pad. The areal definition of the Brule incinerator unit is taken as the extent of the incinerator's concrete foundation pad including an area approximately 65 feet to the northeast of the Brule incinerator unit, as well as the surface water runoff pathway which extends from the concrete foundation pad towards the east to the property line.

Between 1980 and the incinerator's last day of use, September 25, 1989, used absorbent material was burned in the Brule incinerator. Incineration activities consisted of placing used absorbent material, which had been transported from the waste paint filters and overspray paper storage unit, into the Brule incinerator and subsequently removing incinerator ash and placing it in sealed 55-gallon metal containers for storage at the waste paint filters and overspray paper storage unit. Ash generated by incineration activities from 1980 until September 25, 1989 was collected and stored at the storage unit, and was subsequently totally removed on May 24, 1991.



TABLE 2
ANALYTICAL DETECTION LIMITS

Analytical Suite	Parameters	Method	Detection Limit
Metals	Arsenic	SW 846 7060	0.5 mg/kg
	Barium	SW 846 6010	2.0 mg/kg
	Cadmium	SW 846 7131	0.1 mg/kg
	Chromium	SW 846 7191	0.5 mg/kg
	Lead	SW 846 7421	0.15 mg/kg
	Mercury	SW 846 7471	0.04 mg/kg
	Selenium	SW 846 7740	0.25 mg/kg
	Silver	SW 846 7761	0.5 mg/kg
Volatiles	Chloromethane	SW 846 8240	10 ug/kg
	Bromomethane	SW 846 8240	10 ug/kg
	Vinyl Chloride	SW 846 8240	10 ug/kg
	Chloroethane	SW 846 8240	10 ug/kg
	Methylene Chloride	SW 846 8240	5 ug/kg
	Acrolein	SW 846 8240	100 ug/kg
	Acrylonitrile	SW 846 8240	100 ug/kg
	Trichlorofluoromethane	SW 846 8240	10 ug/kg
	Acetone	SW 846 8240	100 ug/kg
	Carbon Disulfide	SW 846 8240	100 ug/kg
	1,1-Dichloroethene	SW 846 8240	5 ug/kg
	1,1-Dichloroethane	SW 846 8240	5 ug/kg
	1,2-Dichloroethene (Total)	SW 846 8240	5 ug/kg
	Chloroform	SW 846 8240	5 ug/kg
	1,2-Dichloroethane	SW 846 8240	5 ug/kg
	2-Butanone	SW 846 8240	100 ug/kg
	1,1,1-Trichloroethane	SW 846 8240	5 ug/kg
	Carbon Tetrachloride	SW 846 8240	5 ug/kg
	Vinyl Acetate	SW 846 8240	50 ug/kg
	Bromodichloromethane	SW 846 8240	5 ug/kg
	1,2-Dichloropropane	SW 846 8240	5 ug/kg
	cis-1,3-Dichloropropene	SW 846 8240	5 ug/kg
	Trichloroethene	SW 846 8240	5 ug/kg
	Dibromochloromethane	SW 846 8240	5 ug/kg
	1,1,2-Trichloroethane	SW 846 8240	5 ug/kg
	Benzene	SW 846 8240	5 ug/kg
	trans-1,3-Dichloropropene	SW 846 8240	5 ug/kg
	Bromoform	SW 846 8240	5 ug/kg
	4-Methyl-2-Pentanone	SW 846 8240	50 ug/kg
	2-Hexanone	SW 846 8240	50 ug/kg
	Tetrachloroethene	SW 846 8240	5 ug/kg
	1,1,2,2-Tetrachloroethane	SW 846 8240	5 ug/kg
	Toluene	SW 846 8240	5 ug/kg
	Chlorobenzene	SW 846 8240	5 ug/kg
	Ethylbenzene	SW 846 8240	5 ug/kg
	Styrene	SW 846 8240	5 ug/kg
	Xylene (Total)	SW 846 8240	5 ug/kg



TABLE 2
ANALYTICAL DETECTION LIMITS
(continued)

Analytical Suite	Parameters	Method	Detection Limit
Base Neutral Acids	Pyridine	SW 846 8270	330 ug/kg
	N-Nitrosodimethylamine	SW 846 8270	330 ug/kg
	Phenol	SW 846 8270	330 ug/kg
	bis(2-chloroethyl)Ether	SW 846 8270	330 ug/kg
	2-Chlorophenol	SW 846 8270	330 ug/kg
	1,3-Dichlorobenzene	SW 846 8270	330 ug/kg
	1,4-Dichlorobenzene	SW 846 8270	330 ug/kg
	Benzyl Alcohol	SW 846 8270	330 ug/kg
	1,2-Dichlorobenzene	SW 846 8270	330 ug/kg
	o-Cresol	SW 846 8270	330 ug/kg
	bis-(2-Chloro2propyl)Ether	SW 846 8270	330 ug/kg
	m & p-Cresol	SW 846 8270	330 ug/kg
	N-Nitroso-Di-n-propoylamine	SW 846 8270	330 ug/kg
	Hexachloroethane	SW 846 8270	330 ug/kg
	Nitrobenzene	SW 846 8270	330 ug/kg
	Isophorone	SW 846 8270	330 ug/kg
	2-Nitrophenol	SW 846 8270	330 ug/kg
	2,4-Dimethylphenol	SW 846 8270	330 ug/kg
	Benzoic Acid	SW 846 8270	1,700 ug/kg
	bis(2-Chloroethoxy)methane	SW 846 8270	330 ug/kg
	2,4-Dichlorophenol	SW 846 8270	330 ug/kg
	1,2,4-Trichlorobenzene	SW 846 8270	330 ug/kg
	Naphthalene	SW 846 8270	330 ug/kg
	4-Chloroaniline	SW 846 8270	330 ug/kg
	Hexachlorobutadiene	SW 846 8270	330 ug/kg
	4-Chloro-3-methylphenol	SW 846 8270	330 ug/kg
	2-Methylnaphthalene	SW 846 8270	330 ug/kg
	Hexachlorocyclopentadiene	SW 846 8270	330 ug/kg
	2,4,6-Trichlorophenol	SW 846 8270	330 ug/kg
	2,4,5-Trichlorophenol	SW 846 8270	1,700 ug/kg
	2-Chloronaphthalene	SW 846 8270	330 ug/kg
	2-Nitroaniline	SW 846 8270	330 ug/kg
	Dimethylphthalate	SW 846 8270	330 ug/kg
	Azobenzene	SW 846 8270	330 ug/kg
	Acenaphthylene	SW 846 8270	330 ug/kg
	2,6-Dinitrotoluene	SW 846 8270	330 ug/kg
	3-Nitroaniline	SW 846 8270	1,700 ug/kg
	Acenaphthene	SW 846 8270	330 ug/kg
	2,4-Dinitrophenol	SW 846 8270	1,700 ug/kg
	4-Nitrophenol	SW 846 8270	1,700 ug/kg
	Dibenzofuran	SW 846 8270	330 ug/kg
	2,4-Dinitrotoluene	SW 846 8270	330 ug/kg
	Diethylphthalate	SW 846 8270	330 ug/kg
	4-Chlorophenol phenyl ether	SW 846 8270	330 ug/kg
	Fluorene	SW 846 8270	330 ug/kg
	4-Nitroaniline	SW 846 8270	1,700 ug/kg
	4,6-Dinitro-2-methylphenol	SW 846 8270	1,700 ug/kg
	N-Nitrosodiphenylamine	SW 846 8270	330 ug/kg
	4-Bromophenyl phenyl ether	SW 846 8270	330 ug/kg
	Hexachlorobenzene	SW 846 8270	330 ug/kg
	Pentachlorophenol	SW 846 8270	1,700 ug/kg
	Phenanthrene	SW 846 8270	330 ug/kg
	Anthracene	SW 846 8270	330 ug/kg
	Carbazole	SW 846 8270	330 ug/kg
	Di-n-butylphthalate	SW 846 8270	330 ug/kg
	Fluoranthene	SW 846 8270	330 ug/kg
	Benzidine	SW 846 8270	330 ug/kg
	Pyrene	SW 846 8270	330 ug/kg
	Butylbenzylphthalate	SW 846 8270	330 ug/kg
	3,3'-Dichlorobenzidine	SW 846 8270	330 ug/kg
	Benzo(a)anthracene	SW 846 8270	330 ug/kg
	Chrysene	SW 846 8270	330 ug/kg
	bis-(2-Ethylhexyl)phthalate	SW 846 8270	330 ug/kg
	Di-n-octylphthalate	SW 846 8270	330 ug/kg
	Benzo(b)fluoranthene	SW 846 8270	330 ug/kg
	Benzo(k)fluoranthene	SW 846 8270	330 ug/kg
	Benzo(a)pyrene	SW 846 8270	330 ug/kg
	Indeno(1,2,3-cd)pyrene	SW 846 8270	330 ug/kg
	Dibenzo (a,h)anthracene	SW 846 8270	330 ug/kg
	Benzo(g,h,i)perylene	SW 846 8270	330 ug/kg
Total Petroleum Hydrocarbons		SW 846 418.1	10 mg/kg



As noted above, from 1980 until September 25, 1989, containers of used absorbent material were incinerated on-site within a small Brule incinerator. According to the manufacturer, the Brule incinerator would achieve approximately 95 percent efficiency in reducing the volume of burned material. Based upon an annual generation (prior to 1989), and subsequent incineration of 12,000 waste paint filters, approximately five to ten 55-gallon containers of ash would be generated per year. The incinerator was operated under an air permit issued by MDNR under MDNR Waste Management Program Policy #202 (see Appendix B for design information and specifications of the Brule incinerator).

3.1 Closure Procedures

Closure procedures associated with the Brule incinerator unit will include the dismantlement of the Brule incinerator and the disposal of the incinerator and its associated concrete pad at an approved hazardous waste disposal facility. Dust or ash that may shake out during the dismantling of the incinerator will also be disposed of at the approved hazardous waste disposal facility. Waste characterization activities will be performed in order to obtain disposal acceptance. Upon receiving disposal acceptance, the dismantled incinerator and concrete pad will be loaded into roll off boxes, manifested and shipped to the approved disposal facility.

3.2 Sampling & Analysis Plan

In order to verify that contaminants have not been released to the ground surface from the incineration of waste paint filters, overspray paper or incinerator ash, a subsurface investigation will be conducted at the Brule incinerator unit. This subsurface investigation will consist of collecting shallow (0-6") soil samples at the locations depicted on Figure 3 and analyzing them for the constituents listed in Table 3.



**TABLE 3
SAMPLE LOG
BRULE INCINERATOR UNIT**

Sample ID No.	Matrix	Depth	Analysis*	Description
KNAP 09	Soil	0-6"	Total Metals, VOA, BNA	Material transport pathway sample
KNAP 10	Soil	0-6"	Total Metals	Surface water runoff pathway sample
KNAP 11	Soil	0-6"	Total Metals	Sample underneath concrete pad

* Total Metals - SW 846 Approved Method

VOA - Volatile Organic Compound - SW 846 Method 8240

BNA - Base Neutral Acids - SW 846 Method 8270

A stainless steel hand auger will be utilized to collect soil samples. Discrete soil samples from the selected sampling locations will be collected from the base material beneath the crushed rock layer or immediately beneath the concrete pad.

All soil samples will be carefully removed from the sampling device using a stainless steel spoon and placed into an appropriate sampling jar. The samples will be collected by personnel in Level D protection utilizing clean latex or nitrile gloves. The personnel protection level will be upgraded if actual project conditions warrant a change.

The sample bottles will be labeled identifying the sample location, sample collector, date of collection and analysis to be performed. The samples will then be transported to an independent laboratory whose QA/QC procedures will be in accordance with SW 846. A chain-of-custody form will accompany the samples to the laboratory.

All augers and sampling equipment used in the investigation will be decontaminated prior to use on the site and prior to removal from the site. This procedure will eliminate the possibility of contamination being introduced from an off-site source and will assure that any possible contamination encountered from the investigation does not leave the site.



3.3 Closure Criteria

The Brule incinerator unit will be considered to be clean closed when the Brule incinerator is properly disposed in an approved disposal facility and the soil sample analysis results indicate no detection of the parameters above the method detection limits identified in Table 2, background levels as identified in the background sample, or as referenced in Missouri soil literature or a risk based standard.

If analytical results indicate that contamination exists in the soil at the Brule incinerator unit, Knapheide will submit a contingent Closure Plan for the unit.

4.0 CLOSURE SCHEDULE

The expected time schedule for the closure activities are as follows:

Activity	Time for Activity	No. of Days from the Receipt of Approval of Plan
1. Mobilization	14 days	14 days
2. Incinerator Approval from Waste Disposal Facility	45 days	59 days
3. Dismantling and Disposal of Incinerator	3 days	62 days
4. Performance of Subsurface Investigations	1 day	63 days
5. Procuring Sample Analytical Results	30 days	93 days
6. Certification of Closure	30 days	123 days

Total estimated time for closure is approximately 123 days from the receipt of Closure Plan approval. If additional sampling is necessary, the time required for closure will be extended. If the closure activities will take longer than 180 days to complete, Knapheide will request an extension from the Regional Administrator 30 days prior to the 180 day period.

5.0 CLOSURE COST ESTIMATE

Incinerator Characterization	\$3,000.00
Incinerator Disposal	\$5,000.00
Subsurface Investigation Activities	\$1,500.00
Sample Analysis	\$4,500.00
Engineering Supervision and Certification	<u>\$6,000.00</u>
Total	\$20,000.00



APPENDIX A
ABSORBENT MATERIAL ANALYTICAL RESULTS



ENVIRONMENTAL, INC. LABORATORY SERVICES DIVISION

March 12, 1991

Mr. Harold Huggins
Knapheide Manufacturing Company
436 South Sixth Street, P.O. Box C-140
Quincy, Illinois 62301

RE: Analytical Results
SCIE No. 91-1034

Dear Mr. Huggins:

SCI Environmental, Inc. (SCIE) is pleased to submit results of analytical testing performed on the samples submitted on February 18, 1991. The samples were analyzed for TCLP; EPA Method 1311 and ignitability. There were no analytical problems encountered with the analysis.

If you have any questions or need further clarification, please do not hesitate to call.

Thank you for selecting SCI Environmental for you analytical testing needs.

Respectfully submitted,

Elizabeth M. Cohoon

Elizabeth M. Cohoon
Laboratory Manager

EMC/jr/031291-2.1tr

Enclosure



ENVIRONMENTAL, INC. LABORATORY SERVICES DIVISION

DATA SUMMARY

Client: Knapheide Manufacturing Company
436 South Sixth Street, P.O. Box C-140
Quincy, Illinois 62301

Project No.: 91-1034

Sample Matrix: Filters

Date Sampled: 2/14/91

Date Received: 2/18/91

Date Analyzed: 3/4/91

EPA Method No.: 1311

Sampled By: SCIE

Sample Location: Knapheide

TOXICITY CHARACTERISTIC LEACHATE PROCEDURE (TCLP)

SCIE Sample No.: 4310

Sample Identity: Paint Composite

Contaminant	Results (ppm)*	Regulatory Level (ppm)*
Arsenic	ND(**) < 0.1	5.0
Barium	0.19	100.0
Benzene	ND < 0.1	0.5
Cadmium	ND < 0.1	1.0
Carbon tetrachloride	ND < 0.01	0.5
Chlorobenzene	ND < 0.1	100.0
Chloroform	ND < 0.1	6.0
Chromium	6.25	5.0
o-Cresol	ND < 10.0	200
m+p-Cresol	ND < 10.0	200
1,4-Dichlorobenzene	ND < 0.5	7.5
1,2-Dichloroethane	ND < 0.1	0.5
1,1-Dichloroethylene	ND < 0.1	0.7
2,4-Dinitrotoluene	ND < 0.1	0.13
Hexachlorobenzene	ND < 0.1	0.13
Hexachlorobutadiene	ND < 0.1	0.5
Hexachloroethane	ND < 0.1	3.0
Lead	ND < 0.1	5.0
Mercury	ND < 0.001	0.2
Methyl ethyl ketone	9.4	200.0
Nitrobenzene	ND < 0.5	2.0
Pentachlorophenol	ND < 10.0	100.0
Pyridine	ND < 2.0	5.0
Selenium	ND < 0.1	1.0
Silver	ND < 0.05	5.0
Tetrachloroethylene	ND < 0.1	0.7
Trichlorethylene	ND < 0.1	0.5
2,4,5-Trichlorophenol	ND < 10.0	400.0
2,4,6-Trichlorophenol	ND < 1.0	2.0
Vinyl Chloride	ND < 0.1	0.2

* ppm = parts per million

**ND = none detected above method detection limit





Sample Number	Sample Identity	Ignitability (degrees F)
4310	Composite	> 200

Submitted By:

3/12/91

Date

File:1034TCLP.dta

Elizabeth M. CohoonElizabeth M. Cohoon
Laboratory Manager

APPENDIX B
BRULE INCINERATOR SPECIFICATIONS

APPLICATION FOR PERMIT TO INSTALL OR MODIFY AN INCINERATOR

☒ New Incinerator ☐ Modification of Existing Incinerator

Date 12-6-99

1. Name of installation THE KNAUF MFG CO. 2. Address 436 S. 6TH ST. 3. Telephone (217) 222-7131
4. Owner of installation SAME 5. Address SAME 6. Telephone SAME

INCINERATOR IDENTIFICATION DESCRIPTION AND SPECIFICATIONS

7. Make BRULE' 8. Model EG4-T5 9. Serial Number --- 10. Type ☒ retort ☐ in line ☐ other
11. Rated capacity 215 lb/hr 12. Type waste "O" (FILTERS) 13. Waste heat content 8500 BTU/lb 14. Approximate firing rate 900 lb/ds
15. Refractory ☒ Firebrick ☐ Castable ☐ Other --- 16. Pyrometric cone equivalent 31 17. Pyrometric test results ☐ on file ☒ attached
18. ASME PTC 27 test results ☐ on file ☐ attached 19. Engineering plans and specifications ☐ on file ☒ attached 20. City building permit No. AA41111 date ---

DESIGN INFORMATION

21. Overfire air 70 % 270 cu. ft./min 22. Underfire air 30 % 117 cu. ft./min 23. Excess air 100 %
24. Primary chamber volume 52 cu. ft. 25. Primary chamber burner 300,000 BTU/hr. 26. Grate area 11.6 sq. ft.
27. Secondary chamber volume 37.5 cu. ft. 28. Secondary chamber burner 450,000 BTU/hr. 29. Secondary chamber temperature min 1400 °F max --- °F
30. Tertiary chamber volume N/A cu. ft. 31. Tertiary chamber burner N/A BTU/hr. 32. Tertiary Chamber temperature min N/A °F max --- °F
33. Stack height 25'-0" ft. above ground 34. Stack exit temperature 1500 °F 35. Stack lining ☒ Fire Brick ☐ Castable ☐ Double Guillotine ☐ Silica
36. Charging door ☒ Double Guillotine ☐ Silica
37. Stack diameter or area 15' ID in. 38. Stack exit velocity 39 ft/sec 39. Damper ☒ barometric ☐ both 40. Grain loading (dry basis) N/A gr/SCF @ 12% CO
41. Installing company KOENKER PLUMBING Address --- Telephone --- 42. Local representative 403 HAMPSHIRE Address --- Telephone 222-2964 43. Person making application (Signature) --- Title --- Telephone ---

General:

Describe general matter of material to be burned. PAINT BOOTH FILTERS
AND FLOOR PAPER

Operation:

Incinerator to operate: 7 hours per day, 3 days per week, 49 weeks per year.

Application Instructions General

6. Permit application reason:

New construction	<input checked="" type="checkbox"/>	1
Alteration	<input type="checkbox"/>	2
Change of location	<input type="checkbox"/>	3
Change of ownership	<input type="checkbox"/>	4

7. Type of organization:

Corporation	<input checked="" type="checkbox"/>	1
Partnership	<input type="checkbox"/>	2
Individual owner	<input type="checkbox"/>	3
Gov't Agency	<input type="checkbox"/>	4

8. Estimated cost of equipment or alteration:

Air pollution control
equipment \$ 17,000

Basic equipment
\$ 4,000

9. For the new construction, alteration, transfer of ownership or location.

What is the: Estimated starting date DEC. 27, 1979
Estimated completion date 2 Wks. AFTER DELIVERY OF
INCINERATOR (EST. TO WHO) ESTIMATE
2-29-80

10. General nature of business:

MANUFACTURE TRUCK EQUIPMENT

11.

Signature of responsible member of organization

12.

William L. Clark
Typed or printed name of signer

13.

DIRECTOR OF PERSONNEL
Official title of signer

14.

12-6-79
Date

15.

(217) 222-7131
Phone number